Course Syllabis CHBE 501

Fall 2018

Fluid Mechanics and Transport

Instructor: Fred MacKintosh Email : fcmack@rice.edu

Schedule: MWF 9:00-9:50 BRC 286

I. Course Objective

To introduce and develop the fundamentals of fluid mechanics and methods to solve problems involving fluid flow and transport.

II. Teaching Staff

Instructor: Fred MacKintosh, Professor, Chemical and Biomolecular Engineering.
Office located in BRC room 1000.
Email: fcmack@rice.edu

Office Hours: after class on Wednesdays and by appointment.

III. Textbook and Resources

The following textbook (available through the campus bookstore) is required:

Deen, W. M. *Analysis of Transport Phenomena*. Oxford University Press, New York: 1998. 2nd Edition.

For additional reference on vectors, tensors and calculus of multiple variables:

Aris, R. *Vectors, Tensors, and the Basic Equations of Fluid Mechanics*. Dover https://www.amazon.com/Vectors-Tensors-Equations-Mechanics-Mathematics/dp/0486661105

A more introductory approach can be found in

Fleisch, D. *A Student's Guide to Vectors and Tensors.* Cambridge https://www.amazon.com/Students-Guide-Vectors-Tensors-Guides/dp/0521171903

IV. Grading

Grading will be determined by a combination of homework assignments (30 %), two midterm exams (40 %), and a final exam (30 %).

V. Homework

Homework turned in late will be penalized 50%. After solutions are posted, late homework will no longer be accepted.

Problem Session: Mondays, 4:00-5:00 in Keck 101

VI. Exams

Midterm 1: 26 September, in Class

Midterm 2: TBD

Course Summary:

Date	Details
Wed Aug 29, 2018	Homework 1
Wed Sep 5, 2018	Homework 2